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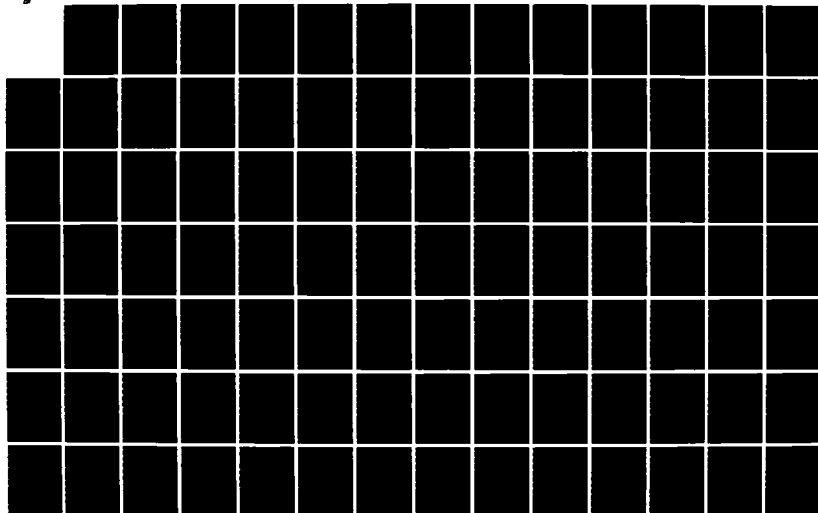
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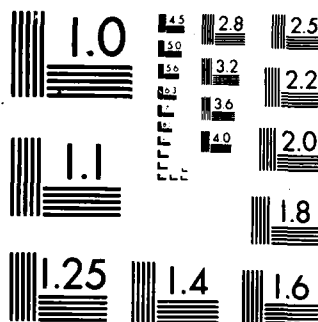
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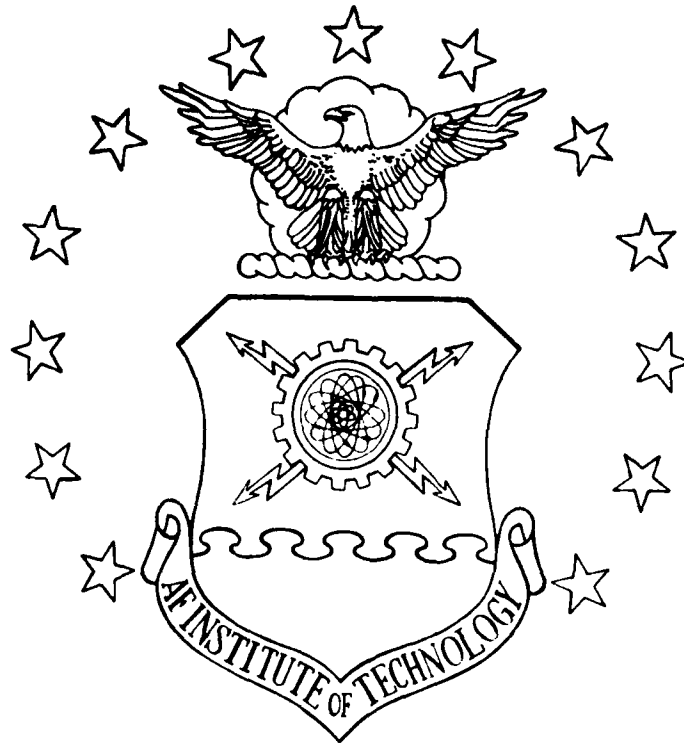
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AN ANALYSIS OF FACTORS RELATED  
TO RETIREMENT INTENTIONS OF  
UPPER LEVEL CIVIL SERVICE EMPLOYEES  
IN THE AIR FORCE

THESIS

Eldon E. Hix  
GS - 12

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AN ANALYSIS OF FACTORS RELATED TO RETIREMENT INTENTIONS  
OF UPPER LEVEL CIVIL SERVICE EMPLOYEES IN THE AIR FORCE

THESIS

Presented to the Faculty of the School of Systems and Logistics  
of the Air Force Institute of Technology  
Air University  
In Partial Fulfillment of the  
Requirements for the Degree of  
Master of Science in Engineering Management

Eldon E. Hix, B.S.

GS - 12

September 1986

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### Acknowledgements

I would like to dedicate this thesis with love to my wife, Mary. Her patience, support, and sacrifice cannot be understated. My children, Nathan, Melissa, and Patrick, deserve mention for providing me with needed breaks during a long and difficult year of study.

A special thanks and best wishes is extended to my thesis advisor, Dr. Robert Steel, who provided professional yet friendly support. Without his expertise and guidance, completion of this thesis would not have been possible. I also would like to thank Mr. Phil Gibson, HQ AFESC, for his wisdom and insight into the issues of this research.

Eldon E. Hix

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Abstract

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This study investigated factors thought to influence the retirement intentions of technical managers, age 52 and above, within Air Force Civil Service. Many of these personnel are eligible or will be eligible for retirement within the next <sup>5</sup> five years. The purpose of this research was to identify the <sup>9</sup> factors that significantly predict the intent to retire and to estimate attrition losses due to retirement <sup>in the next 5</sup> over the next five years. Data collection was accomplished <sup>by mail survey</sup> by a mail survey of GM13 - GM15 managers in engineering and other technical professions.

A model of retirement was developed and tested to determine the significant factors that predicted retirement intentions. Age, tenure, the influence of job on health, number of dependents, perceived parity of current pay, proportion of retirement income from civil service, post retirement plans, and spousal influence were found to be significant predictors of retirement intent. These predictors accounted for a total of 40% of the retirement intent variance. Work and job attitudes were found not to be significant predictors of the <sup>6</sup> intent to retire. With respect to retirement plans, over 61% of the research population expressed the intent to retire prior to 1991 under the current retirement system. The option for early retirement

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resulted in an accelerated retirement trend over the near term. Significant relationships worthy of further study include the influence of work on health, spousal commitment to the organization, as well as the applicability of the retirement model to other work groups within Air Force Civil Service.

AN ANALYSIS OF FACTORS RELATED  
TO RETIREMENT INTENTIONS OF UPPER LEVEL CIVIL  
SERVICE EMPLOYEES IN THE AIR FORCE

I. Introduction

Overview

The Age Discrimination in Employment Act of 1978 eliminated mandatory retirement within the civilian workforce of federal service employees. This legislation provided employees with significant discretionary power in deciding when to retire (Schmitt and McCune, 1981). Employee's and managers may now consider retirement options ranging from retirement at age 55 to employment beyond age 70. This research is an exploratory investigation into factors influencing the decision to retire.

A review of historical and projected retirement trends highlight the importance of determining what factors influence people to retire. Between 1950 and 1980, the percentage of the United States workforce age 65 and older fell from 24 percent to 13 percent. The declining workforce participation by older workers was attributed to increased retirement by men (Congressional Budget Office Study, 1982). The Congressional Budget Office also found that the labor force participation rate of persons age 55 - 64 fell from 62 percent to 56 percent between 1970 and 1980.

An increasing population of retirees creates a number of social burdens on the rest of the population. One social burden involves the actual cost of supporting an aging and predominately retired population. Federal outlays in 1982 for persons 65 and older exceeded \$178 billion or 20 percent of the Unified Federal Budget (Congressional Budget Office Study, 1982). Spending for this population in 1986 was projected to be \$271.8 billion or 28 percent of the federal budget (Office of Management and Budget, 1985). Demographic estimates by the Census Bureau predict that 20 million people per decade will reach age 65 between 1980-2021. Projections jump to 30 million people per decade in the following years (Congressional Budget Office Study, 1982). A disproportionately large population of retirees may place a significant drain on the resources of this country.

Another major social burden related with an aging workforce involves replacement of an organization's existing workforce. The combined demographic trends of longer life spans and declining birth rates are resulting in an aging workforce with fewer people entering the labor force at the entry level (Tucker, 1985). The Air Force has experienced a continuous decline in both military and civilian engineering manpower since 1976 (House Sub-Committee on Science, Research, and Technology Report, 1983). Previous studies at the Air Force Institute of Technology have documented Air Force management concerns over the shortage of civilian engineers and technical personnel (Smiley, 1982; Schmidt,

1985). Department of Defense research into the scientific and engineering manpower shortages has predominately focused on entry level personnel. Few studies acknowledge that the exodus of older workers due to retirement is a major reason for present manpower shortages. The failure of the Air Force or any other organization to retain older workers, especially the better performers, may result in an undermanned workforce that is incapable of performing organizational objectives (Humple and Lyons, 1983; Tucker, 1985).

Research into retirement within the federal sector has not been aggressively pursued in the past. In the recent past, manpower shortages created by retirement attrition may have been partially offset by women entering the workforce and an ample supply of youth labor (Congressional Budget Office Study, 1982). Upper management within the Air Force is beginning to recognize the demographic trends that are affecting workforce stability. The Air Force Civil Engineering (AFCE) career field employs engineers, architects, and other technical personnel. Discussions with Mr. Phil Gibson, HQ Air Force Engineering and Services Center personnel specialist for AFCE, indicated a concern that a majority of the civilian middle managers in AFCE are currently eligible or will be eligible for retirement within the next five years. A sudden exodus of this labor force from federal service would create a detrimental transition period for AFCE. Conversely, if this group extended their careers into their 60's and 70's, additional personnel



problems could be experienced in career progression for younger employees and retraining the older workforce in new technological advances. Ms. Claudia Tewell, HQ USAF/DPCE civilian retirement manager, amplified these concerns for other technical civilian career fields.

### Specific Problem

Few research efforts have been accomplished within the Department of Defense on the decision process preceding civilian retirement. This is in contrast to the large number of studies focused on military personnel retirement. Ms. Tewell and Mr. Gibson were unaware of any Air Force study that had evaluated factors affecting the retirement decisions of civilians. A Defense Technical Information Center literature search indentified only one completed research effort within the Department of Defense on civilian retirement prior to 1983. The Department of the Navy has recently initiated three studies investigating civilian retirement. The apparent lack of research in this area could be due to the expanding nature of the workforce during the 1960's and 1970's. Additionally, during the first few years after passage of the Age Discrimination in Employment Act of 1978, inflation was a major deterrent to a retirement exodus (Dockson and Vance, 1981; Congressional Budget Office Study, 1982). Recent trends indicate a much higher rate of retirement since inflation moderated in 1980 (Congressional Budget Office Study, 1982; Kettner, 1985).

Good managers are considered the key ingredient to a successful and efficient organization (Donnelly, Gibson, Ivancevich; 1984). The present study focuses on civilian middle managers, GM13 to GM15, within technical career fields in the Air Force. People achieving these comparatively influential positions should represent an important human resource within the federal workforce based on provisions of the Performance Management Program (Air Force Regulation 40-452, 1984). The Civil Service Reform Act of 1978 emphasized the need for maintaining performance excellence within this workforce population (GAO Report, 1984).

These employees represent valuable assets to the Air Force. Loss of these employees due to retirement, especially premature retirement, compounds the Air Force staffing difficulties. Cost estimates from the private sector indicate that the loss of an upper level manager will result in 2.6 promotions with a minimum capital investment of \$3000 for each personnel action (Seybolt, 1983). Recognizing the potential expenses associated with personnel relocation and lost productivity due to retirement of senior managers is vital for the Air Force given the projected environment for funding appropriations. The purpose of this research is to examine the decision making process preceding the retirement of civilian technical managers in the U. S. Air Force.

### Research Objectives

The first objective of the research is to identify factors that predict the retirement intentions of GM13 to GM15 technical managers in the Air Force over 52 years old. Specific variables to be studied include personal characteristics, financial considerations, health considerations, work/job attitudes, and non-work factors. The second objective will be to estimate personnel attrition due to retirement within this population over the next five years.

The remainder of this thesis will be presented in four parts. A review of past literature and research into retirement is contained in Chapter 2. The research methodology used in this study is presented in Chapter 3. Chapter 4 contains a description of the data analysis and findings. Chapter 5 discusses results and provides recommendations and areas for follow-on research.

## II. Literature Review

### Overview

This chapter reviews theory and research on retirement and attempts to identify factors thought to influence the retirement process. Two models of the retirement process are discussed. The first model by Palmore, George, and Fillenbun (1982) shows a theoretical framework of variables hypothesized to predict retirement. The second model is an adaptation and revision of the Palmore et al. model which will be the focus of the present research. Specific factors which contribute to these models and their differences will be discussed in detail.

### Introduction

Chancellor Otto Von Bismark adopted the first formal retirement system in western civilization during 1889 (Wallflesh, 1978). The Chancellor arbitrarily established a retirement age of 65 with little scientific evidence to support this selection. The Social Security Act of 1935, the first retirement legislation passed in the United States, followed the precedent set by the Chancellor and selected 65 as the target retirement age. Over the next 50 years, public and most private sector employees worked in a pension system which called for mandatory retirement at age 65 (Schmitt and McCune, 1981). During the early 1970's demographic trends within the workforce forced legislative action to change the

mandatory retirement age through enactment of the Age Discrimination in Employment Act of 1978 (Wallflesh, 1978; Congressional Budget Office Study, 1982; Burkhauser and Quinn, 1983). This law raised mandatory retirement to age 70 in the private sector and abolished mandatory retirement in the public sector.

It is appropriate to consider what impact, if any, the Age Discrimination in Employment Act has had on retirement trends. A study accomplished in 1985 evaluated retirement and turnover statistics for the civilian GS/GM workforce in the Air Force from 1975 to 1984 (Kettner, 1985). The study found that civilian retirement accounts for more than half of all separations, excluding transfers, within this workforce. Civilians eligible for retirement accounted for about 10% of the Air Force civilian workforce. Fully 25% of this population retired in their first year of eligibility for retirement. The average age for all retirees during this time period was approximately 58 years old. This trend is not unique to the federal sector. Studies of private sector employee records show average retirement ages between 60-62 during the last 15 years (Kimmel, Price, and Walker, 1978; Congressional Budget Office Study, 1982; Burkhauser and Quinn, 1983). Evidence indicates that a majority of these retirement decisions were voluntary. About 90 percent of all the Air Force civilian retirements were voluntary in nature and not attributable to disability or reductions in force (Kettner, 1985). These studies indicate that a majority of

retirements take place 4-7 years before age 65. While the Age Discrimination in Employment Act raised the ceiling for retirement there is little evidence of a corresponding increase in the average age at retirement (Burkhauser and Quinn, 1983).

Retirement is typically viewed as a process which initiates during the mid 40's and proceeds through a post-retirement adjustment period (Atchley, 1976; Kimmel et al., 1978; Palmore et al., 1982; Evans, Ekerdt, and Bosse, 1985). This perspective seems appropriate if retirement represents a transition between the working period in life to a non-working status. This research will focus on retirement as a process rather than an event or role. This distinction is important in order to consider what individual factors significantly contribute to the decision to retire.

Limited empirical research has been accomplished on retirement and its antecedents. Fifteen studies have been accomplished on data collected in the National Longitudinal Surveys of Labor Market Experience (Sproat, 1983). The National Longitudinal Surveys began in 1965 and interviewed 606 older men and women 11 times over 17 years. Schmitt and McCune studied 513 Michigan State Civil Service employees during 1978 and 1979 (Schmitt and McCune, 1981). Barfield and Morgan (1969) investigated factors that related to the decision to retire early among 3,647 men and women auto workers aged 35 to 39. The Retirement History Study was conducted by the Social Security Administration between 1969

and 1979 on 877 men and women aged 58 to 63. The Duke Work and Retirement Study during 1961 to 1966 collected detailed demographic, psychological, economic, and health information on 161 men that were retired or within 5 years of retirement. Other notable studies on general populations included the Duke Second Longitudinal Study and the Ohio Longitudinal Study. Two studies were located that dealt strictly with retirement among professional and managerial personnel. The first study obtained data from 175 male executives aged 63-69 that were still working in the Paris, France region during 1978 (Poitrenaud, Vallery-Masson, Demestree, and Lyon; 1979). The second study performed a factorial analysis on data from 457 respondents between the ages of 25 to 64 that worked as attorneys, social workers, high school teachers, or college professors (Kilty and Behling, 1985). Eighteen of these studies have been published since 1979. These studies focused primarily on post-retirement adjustment/effects rather than factors that led to retirement. A review of empirical research on retirement states that the conclusions drawn to date on precursors of retirement are tentative due to the nature of research methods employed (Beehr, 1986).

Reasons for the increasing interest in this field of study may include the recognition that workers eligible for retirement constitute a vital element in the United States workforce. Past labor force growth in this contry was due to massive infusions of females and post war baby boomers (Humple and Lyons, 1983). As the demographic bulge of the

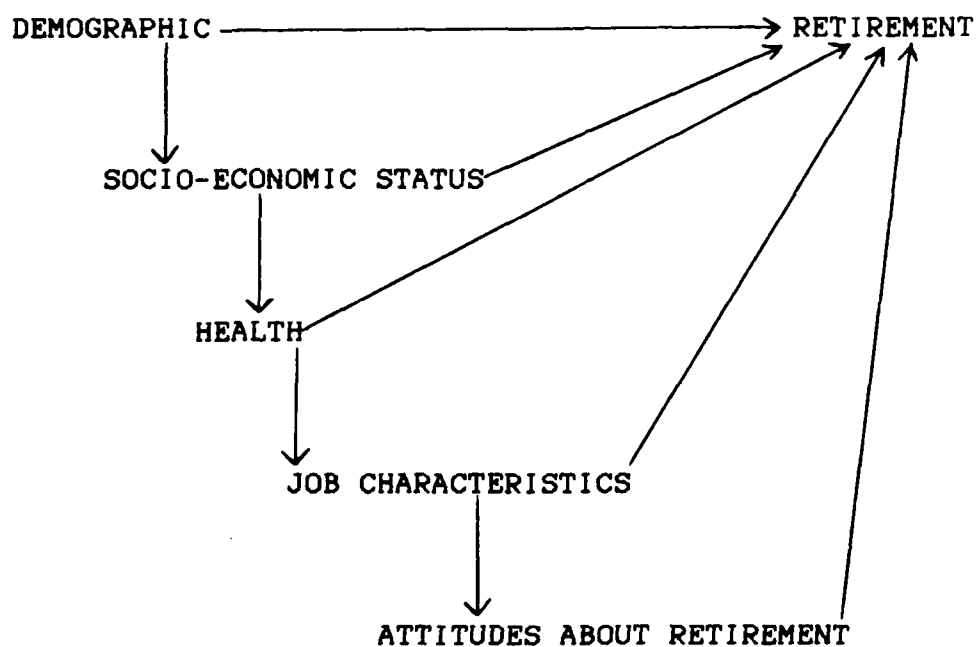
post war generation ages, net losses (retirement and attrition losses minus native born entries) must be made up with immigration or alien worker gains (Congressional Budget Office Study, 1982; Humple and Lyons, 1983). Not only must the current rate of retirement losses be moderated to avoid a workforce shortage crisis, but other factors such as retraining of the elderly, health implications, job enrichment, etc. must be acknowledged (Wallflesh, 1978; Humple and Lyons, 1983; Tucker, 1985).

Organizations spend time and money researching personnel issues such as turnover, commitment, productivity, and performance evaluation. From this research, models are developed to aid organizations in effectively managing their workforce. Palmore, George, and Fillenbaum (1982) developed a retirement model and tested it using results of seven longitudinal studies on retirement.

#### **A Model of Factors Predicting Retirement**

The Palmore model (Figure 2.1) included five factors thought to affect the retirement decision. These factors were demographic, socioeconomic status (SES), health, job characteristics and attitudes. Palmore et al. (1982) compared significant predictors of two distinct types of retirement. Early retirement (retirement before age 65) was most strongly predicted by structural and subjective factors, such as attitudes and self-rated health. The strongest predictors of retirement over age 65 were structural factors





PALMORE ET AL. (1982) MODEL OF FACTORS PREDICTING RETIREMENT

SOURCE: Journal of Gerontology, 37 (6), pg. 736

Figure 2.1

such as socio-economic status and job characteristics. No single factor was seen as a global predictor of retirement. Significant factors were found to interrelate with each other and with the final retirement outcome. A detailed analysis of each factor is discussed below.

**Demographic factors.** Demographic variables measured by Palmore et al. (1978) included age, race, marital status, region, and rural-urban residence. Age, by itself, was a moderate predictor of retirement ( $R=.06$ ,  $p=.05$ ) in the Retirement History Study. Age became a much stronger predictor when it was combined with other significant factors such as economic status. No other significant demographic variables were identified. The study conducted by Schmitt and McCune (1981) on 379 Michigan Civil Service employees also determined that these demographic variables were not significantly related to retirement status. Age, by itself, did have a significant univariate relationship with job level and retirement but quickly became masked when other significant factors entered the relationship. Palmore et al. acknowledged that there may be intermediate linkages between age and retirement.

**Socio-economic status.** These factors were defined in terms of education, occupation, and poverty levels. Palmore et al. (1982) found these variables increased the R value by .11 ( $p < .05$ ) in the Retirement History Study and .23 ( $p < .05$ ) in the National Longitudinal Study. They postulate that higher SES men have more opportunities and incentives to

continue working past age 65. Schmitt and McCune (1981) indirectly supported this hypothesis when they found that workers with lower job levels retire earlier (R increased by .06,  $p < .05$ ). Burkhauser and Quinn (1983) noted that people interpret retirement in terms of present wealth. They concluded that higher earnings induce older workers to stay on the job while financial penalties (eg., taxes, wage cuts) induce them to leave. Other studies have determined that significant numbers of retirees reenter the workforce or do volunteer work (Kimmel et al., 1978; Beveridge, 1980; Sproat, 1983). People with higher pay and benefits may be more financially induced to work since there are fewer opportunities outside the organization which would significantly contribute to their current SES (Burkhauser and Quinn, 1983). However, demographic evaluations of Air Force civilians indicate that the retirement age for upper grade employees is not dramatically higher than that for the overall population (Kettner, 1985).

Econometric models of retirement strongly emphasize pension benefits and subsequent impact on retirement to the virtual exclusion of all other variables (GAO Report 84-1, 1982; GAO Report 84-2, 1984; GAO Report 85-31, 1985; Kettner, 1985). Given the magnitude of resources committed to pensions and retirees, this may be a reasonable organizational approach. Several recent studies indicate that employee financial condition is one of the best predictors of retirement (Kimmel et al., 1978; Schmitt and

McCune, 1981; Burkhauser and Quinn, 1983). The Palmore model was founded on research conducted during years of relative economic stability. Recent periods of recession, inflation, etc. inject greater uncertainty into evaluations of personnel wealth. Recent research highlights the increasing concerns that present day employees have about the ability of pension plans to compensate for economic instability (Dockson and Vance, 1981; Jud, 1981).

Health. Typically, measures of health have consisted of self-health perceptions and medically defined conditions such as high blood pressure, etc. Palmore et al. (1982) determined that health did not significantly predict retirement except in cases of severe ill-health. Other studies have supported this finding that health does not contribute significantly to the retirement decision (Schmitt and McCune, 1981; Wan, 1982). Other studies have concluded that health is a major influencing factor on the decision to retire (Burkhauser and Quinn, 1983; Sproat, 1983). The actual role that health plays remains somewhat ambiguous. Involuntary retirement is clearly influenced by poor health within the Air Force civilian population. However, disability retirements in one Air Force study accounted for only 9.1% of total retirements in 1983 and 1984 (Kettner, 1985). No studies attempted to control or evaluate job factors influencing health such as a high stress environment, demanding physical requirements, etc.

What does come across strongly in the literature is the relationship between self perceived/actual health and satisfaction with retirement. Kimmel, Price, and Walker (1978) found an R-square of .32 ( $p < .001$ ) between health and retirement satisfaction. Other studies concur that positive health attributes are correlated with positive satisfaction with retirement (Poitrenaud et al., 1979; Beveridge, 1980; Wan, 1982; Beck, 1982). Additional studies indicate that the actual retirement process has little impact on personal health. (Ekerdt and Bosse, 1982; Wan, 1982).

Job characteristics. In the Palmore et al. model job characteristics dealt with whether the job had a pension plan and/or was subject to a mandantory retirement policy. It should be noted that all of the studies evaluated by Palmore et al. (1982) were performed prior to the Age Discrimination in Employment Act of 1978. These two structural features of the job did contribute significantly to the prediction model. Based upon the implications of the Age Discrimination in Employment Act of 1978 these predictors may have far less impact on the retirement decision today (Schmitt and McCune, 1981; Tucker, 1985).

Retirement attitudes. The final predictor variable evaluated by Palmore et al. (1982) was the attitude expressed about retirement. Their evaluation concluded that this variable was not a significant predictor of retirement.

### Summary of Model

Palmore et al. (1982) evaluated the model in terms of retirement over 65 and retirement under 65. They concluded that structural characteristics such as socio-economic status and job characteristics were the strongest predictors for those over 65. Health and retirement attitudes for this age group were relatively unimportant. Early retirement under 65 was influenced more by subjective factors including perceived adequacy of retirement income, attitudes toward work and retirement, and self perceptions of health.

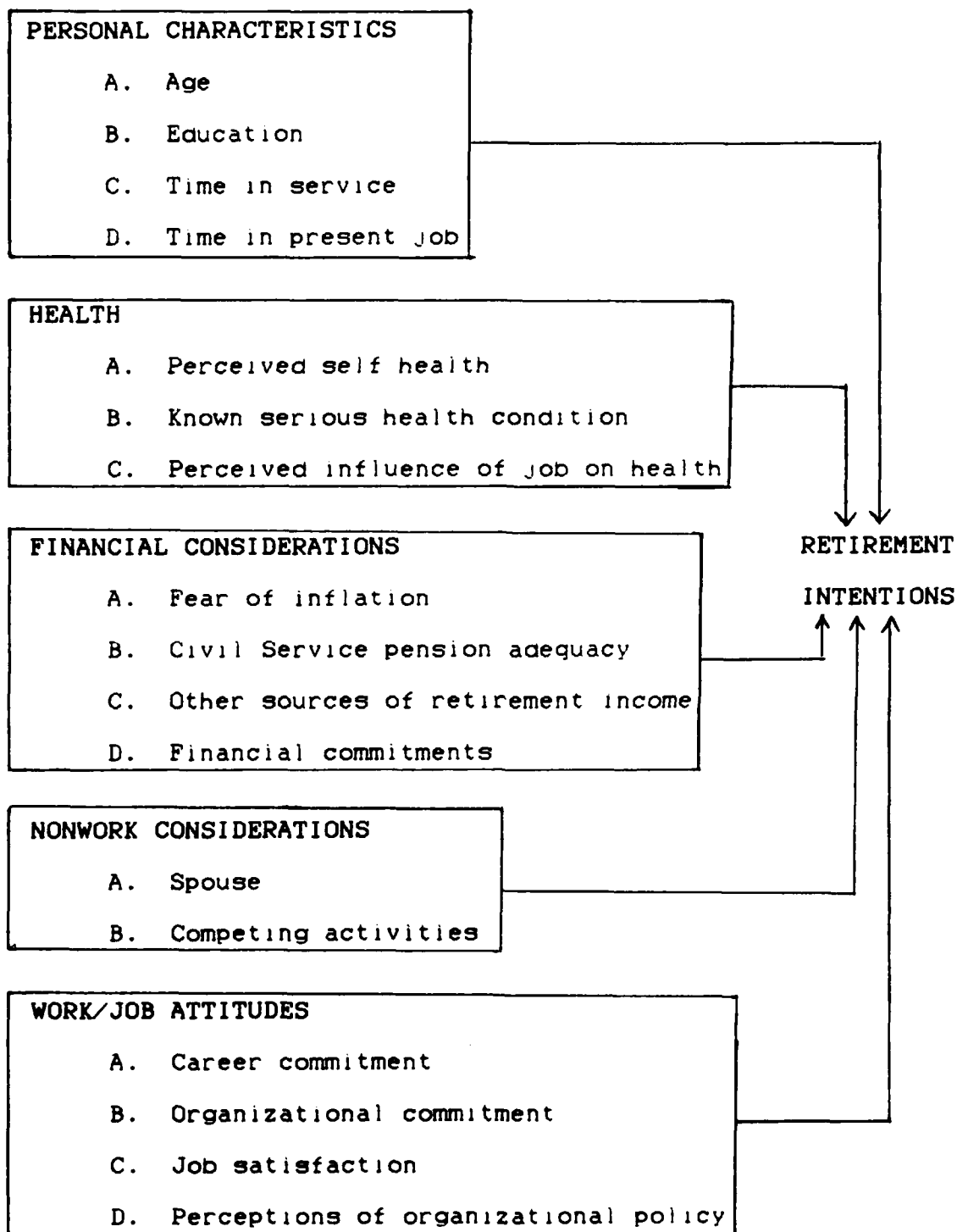
The Palmore model is one of the few models found in the literature which attempted to evaluate antecedents of retirement. The researchers evaluated hypothesized predictors of retirement with published results from other studies. One hinderance to the Palmore et al. research was the inability to assign a common form or definition of retirement between the various research studies (Beehr, 1986). Much of their data was archival and did not permit the researchers to identify which retirees were forced into early retirement due to economic conditions, mandatory retirement programs, etc. Palmore et al. (1982) acknowledged that the model represented a simplified, theoretical view of retirement. This framework, in conjunction with other research findings, provides a starting point for future research.

One avenue for additional research is to determine how a homogenous group with higher socio-economic status evaluates

the retirement decision. Only Poitrenaud et al. (1979) focused exclusively on a sample of 175 people in high SES occupations. Despite the lack of research focusing on high SES groups, many studies suggest that there are significant differences in retirement due to socioeconomic status (Palmore et al., 1982; Schmitt, White, Coyle, Rauschenberger, 1979; McPherson and Guppy, 1979). Research that focuses on this subgroup would be useful in developing a better understanding of what factors influence the retirement intentions of individuals in high SES occupations.

#### Modification of the Palmore Model

The Palmore model was used as a basis for the development of a second model of retirement. This second model, shown in Figure 2.2, attempts to revise and extend the Palmore et al. model (1982) by depicting the antecedents of one's intent to retire. The major factors consist of clusters of variables measuring personal characteristics, health factors, financial considerations, nonwork factors, and work/job attitudes. This revised model provides a framework for an exploratory analysis of the determinants of retirement intent. The model attempts to expressly include variables pertaining to the retirement intentions of senior level middle managers. Previous empirical evidence will be presented below to support the inclusion of the sets of variables shown in the model.



PROPOSED MODEL OF FACTORS AFFECTING THE INTENT TO RETIRE  
Figure 2.2



Personal characteristics. The personal characteristics factors include demographic variables relevant to the issue. These variables include age, education, time in service, and time in present job. Age is certainly one of the primary eligibility requirements for retirement. A survey by the Government Accounting Office found that approximately 70% of all employers have established age 55 as the minimum age for retirement (GAO Report 84-2, 1984). Time in service represents another qualifier for retirement eligibility. The Civil Service Retirement System, excluding retirement due to disability and workforce reduction, currently has retirement benchmarks at age 55 with 30 years of service, age 60 with 20 years of service, and age 62 with 5 years of service (Federal Personnel Manual System Supplement 831-1, 1981). Time in present job represents the number of years the employee has spent in his or her current position. A cross-sectional study of 3,805 government employees determined that the strength of the relationship between job satisfaction and various task dimensions is a function of job longevity and organizational longevity (Katz, 1978). Time in present job may relate to other factors (e.g., satisfaction and involvement with work) which may directly influence the dependent variable. One's level of education was found to be an incremental predictor of retirement by Schmitt et al. (1979) and Palmore et al. (1982) with an increase in R between .08 and .11 at a p-value <.05. Within the context of the present research population the level of education may

not exhibit much variance because a homogenous group is under study. However, it is relatively easy to measure and may prove to be an important indicator of retirement for more heterogenous groups.

**Health factors.** Health factors include three variables. Known serious health conditions focuses on medically acknowledged health conditions of the individual. If one assumes that all disability retirements are due to medical conditions, then 9.1 per cent of the Air Force civil service population retired for health reasons (Kettner, 1985). Perceived self-health is a measure of how the individual feels about their overall health condition. A third health-related factor deals with how individuals feel their work influences their health. The previous discussion on health highlighted the differences in the literature on the significance of health on retirement status. Burkhauser and Quinn (1983) and Sproat (1983) contend that health is a major influencing factor on the retirement decision process. Conversely, Palmore et al. (1982) and Schmitt and McCune (1981) found health to be not significantly involved in the decision to retire. Inclusion of the three health-related variables provides an indication of any interrelationship between them and helps to represent the effects of health on retirement above and beyond the well-established influence of severe medical conditions.

**Financial considerations.** The adequacy and perceived security of post retirement income is one of the most

significant determinants of retirement (Schmitt and McCune, 1981; Burkhauser and Quinn, 1983; Kilty and Behling, 1985). Specific financial variables contained in the model include perceptions of inflation, financial commitments, perceived adequacy of civil service pension, other sources of retirement income, and spousal employment. During part of the 1970's when inflation exceeded ten percent there was a significant decrease in the number of retirements (Kettner, 1985). Other researchers have established that inflationary pressures exercise considerable influence on the present value of a retirement pension (Dockson and Vance, 1981; Burkhauser and Quinn, 1983). A person's perception of inflation should be inversely related to the felt adequacy of post retirement income. Spousal employment and subsequent contribution to current household income/post retirement income represents another potentially significant contributor to the wealth of a household. Financial commitments include the current number of dependents and present equity in primary residence. Schmitt et al. (1979) found low levels of financial commitment to be significantly related to early retirement. Civil Service pension and other post retirement income sources such as Social Security, investments, and other vested pension plans represent the primary sources of income to the retiree. Perceived adequacy of retirement income should provide an overall measure of financial well being.

Nonwork considerations. Two non-job factors are shown in the model. The first factor is the role of the spouse in the retirement process. This includes establishing that the employee is married, determining if working spouse retirement eligibility is a retirement consideration, and how strongly the spouse influences the employee about retirement. The second factor consists of competing activities which the employee may be considering. These competing activities include other work opportunities after retirement, felt strength of community and/or church involvement, attraction of recreational activities, and planning for post retirement. Research on anticipatory involvement has focused primarily on financial preparedness with limited evaluation of activities which will follow retirement (Evans et al., 1985). Research on 185 retired managers indicated that post retirement activities are related to satisfaction with retirement (Beveridge, 1980).

Work/Job attitudes. Four job and work attitudes are hypothesized antecedents of retirement. A Defense Technical Information Center search identified no previous research investigating job and work attitudes for Civil Service populations approaching retirement. Likewise, Mowday, Porter, and Steers (1982) acknowledge that more research should be performed on long term employees with respect to organizational commitment, job satisfaction, etc. Secondly, the Air Staff sponsor of this research recommended this area be included in the study. A majority of the retirement

legislative activity focuses on financial options and their effects (Congressional Budget Office Study, 1982). The present model hypothesizes that there are non-economic considerations involved in the retention of employees approaching retirement. Positive work experiences may foster improved work attitudes which may ultimately lead to postponed retirement plans. The four work/job attitudes contained in the model are career commitment, organizational commitment, job satisfaction, and perceptions of organizational policy.

Career commitment will deal with the importance of a career/profession to the individual. A survey of 141 middle aged staff professionals and insurance sales personal found career committment to be significantly related with job satisfaction,  $R=.24$  and  $p < .05$  (Wiener and Vardi, 1980). Kilty and Behling (1985) found that work alienation was the best predictor of both retirement intentions and attitudes in their study of 457 attorneys, social workers, college professors, and high school teachers. However, they also postulate that alienated people exhibiting a high degree of career commitment will opt for early retirement in order to start a second career within their chosen occupation. It would seem reasonable to expect a high level of career commitment among people in the focal population. The ability of the organization to support job aspirations through the job should have a significant effect on retirement intentions.

Mowday et al. (1982, p. 27), state that organizational commitment is characterized by "(a) a strong belief in and acceptance of the organization's goals and values: (b) a willingness to exert considerable effort on behalf of the organization; and (c) a strong desire to maintain membership in the organization." Stevens, Beyer, and Trice (1978) in a study of 634 managers in the federal government examined organizational commitment within a role taking and exchange framework. They found that role factors such as organizational turnover and work overload were the strongest predictors of commitment. This supported an exchange or side-bet approach to commitment that employees experience an increase in commitment by linking extraneous interest, such as vested pension programs, with their activities (Becker, 1960). Sheldon (1971) confirmed that job longevity, a personal investment in the organization, among research scientists was positively related to increased levels of organizational commitment. Research that evaluates the importance of these exchanges on commitment when the exchanges are realized (i.e. retirement eligibility) were not found in the literature research. Stevens et al. (1978) concluded that a composite view of commitment which includes the psychological and exchange approach may be useful in evaluating organizational commitment. Intuitively, organizational commitment should increase one's attachment to the organization and thereby lower the probability of immediate retirement upon eligibility.

Job satisfaction/dissatisfaction is the third work/job attitude in the model. Simply stated job satisfaction measures an individual's feelings toward his or her job. Three separate studies indicate that job satisfaction and life satisfactions are interrelated (Near, Rice, and Hunt, 1978; Keon and McDonald, 1982; Chacko, 1983). Retirement studies by Kilty and Behling (1982) and Schmitt et al. (1979) conclude that job satisfaction moderately affects retirement intentions. This conclusion is compatible with previous turnover research which indicates that the relation between turnover and job satisfaction is weak but consistent and significant (Mobley, 1977).

Perceptions of organizational policies toward older workers are the final work attitude in the current framework. A significant percentage of respondents in a survey by the American Management Association felt that organizations were not responsive to older workers in retirement planning practices or in encouraging them to continue work (Jud, 1981). Tucker (1985) found that professionals over 50 felt neglected with respect to technical training opportunities. Organizational policies have contributed to the trend toward earlier retirement (Congressional Budget Office Study, 1982). No research to date has evaluated older Civil Service employee perceptions of organizational policies.

**Retirement intentions.** The most appropriate research methodology to test a causal model of retirement would be a longitudinal study that evaluated variables prior to actual

employee retirement (Emory, 1980). Since the literature review does not provide extensive research on retirement, an initial correlational study is an appropriate and cost-effective method of initially identifying variables which influence the individual's intent to retire. The research population consists of employees that are approaching the retirement decision. Previous research verifies that as individuals approach retirement their intentions with respect to retirement become manifested behaviors. A survey of 816 men (90 percent response rate) in the Normative Aging Study of the Veterans Administration in Boston found a correlation coefficient of  $-.46$  ( $p < .001$ ) between proximity of retirement and anticipatory involvement (Evans, Ekerdt, and Bosse, 1985).

Although retirement intentions have not been validated against retirement criteria, studies have related intentions to behavior. A meta-analysis of turnover research that measured behavioral intentions produced a weighted average correlation of  $.50$  between intention and turnover (Steel and Ovalle, 1984). Fishbein and Ajzen (1975) state that "the best single predictor of an individual's behavior will be a measure of his intention to perform that behavior." The expressed intent to retire represents a practical and reasonable measure to evaluate in lieu of an objective retirement criterion.

Civil Service retirement eligibility for receipt of benefits is defined by the Federal Personnel Manual System



Supplement 831-1. Present eligibility requirements, excluding disability and reductions in force, are:

1. Age 55 with 30 years of service
2. Age 60 with 20 years of service
3. Age 62 with 5 years of service

The personnel data base for the Air Force indicates that 70-80 percent of the workforce retires within the first three years of retirement eligibility (Ms. Claudia Tewell, 14 November 1985). These trends were confirmed by a study of Air Force Civil Service Retirements between 1976 and 1984 (Kettner, 1985). The research population will be evaluated based on the year of retirement eligibility in which they intend to retire.

The hypothesized model provides the framework for testing what variables predict the intent to retire. The variables identified in the model represent the most probable predictors based on research conducted on retirement to date. The formation of this model is important to guide the exploratory nature of the research.

### **Research Hypotheses**

After reviewing the literature and considering research objectives, hypotheses were formulated to evaluate the model in figure 2.2. Research objectives are restated below with related hypotheses.

### Research Objective 1

Determine the significant factors that predict the intent to retire:

While the research population is relatively homogenous, different factors will influence retirement intentions. Identification of these factors provides pertinent information toward understanding individual choice behavior within the population.

Hypothesis 1. Personal characteristics such as age, tenure, time in job, and education level will significantly predict the intent to retire.

Individuals that currently have a serious health condition or feel that work is negatively affecting their health will probably indicate earlier retirement intentions.

Hypothesis 2. Health considerations are significantly related to retirement intentions.

Individuals reporting a high level of financial commitments or exhibiting a fear of inflation will opt for later retirement. Individuals that indicate a high level of financial security will indicate earlier retirement intentions.

Hypothesis 3. Financial factors are significantly related to retirement intentions.

Activities outside the workplace and spousal influence affect the behavioral intent of the employee.

Hypothesis 4. Nonwork considerations are significantly related to the intent to retire.

Individuals that express feelings of job dissatisfaction and low organizational commitment will probably opt for earlier retirement.

Hypothesis 5. Work/job attitudes are significantly related to retirement intentions.

### Research Objective 2

Develop a five year estimate of attrition due to retirement within the research population. The estimate will be based on the current retirement system. The impact of an early retirement option will also be addressed.

### Summary

The discussion in this chapter has focused on two models of the retirement process. The first model was hypothesized and tested against published cross-sectional research. The second model expanded variables of interest to explain variances in retirement within a homogeneous group. By focusing on individuals with similar backgrounds, information will be gained in explaining individual differences that are more job and work related. It is hoped that this information can be useful to the Air Force in managing retirement trends without the use of indirect economic sanctions.

### III. Method

#### Introduction

This chapter outlines the methodology used to collect and analyze data to test research hypotheses developed in Chapter II. The first section of this chapter discusses the research sample, group characteristics, and the underlying population. The next section describes the measures of respective variables included in this research analysis. The final section outlines the procedure used in the sampling process.

#### Sample

The underlying population consisted of 1714 GM13-GM15 Air Force Civil Service managers, aged 52 or older, employed in the continental United States. In addition, the population was employed within the job series of 510 (Accounting), 511 (Auditor), 801 (General Engineer), 810 (Civil Engineer), 855/861 (Electronics Engineer), 896 (Industrial Engineer), 1301 (Physical Scientist), 1520 (Mathematician), and 1910 (Quality Assurance Evaluator). These job series were selected due to the staffing shortfalls currently experienced by the Air Force in these occupations.

A total of 483 GM13's were randomly selected for survey administration from the population of individuals in each job series. A census of GM15's and GM14's was obtained due to the small number of individuals in these grades. Name, age, grade, and organizational address were generated from ATLAS,

the Air Force personnel data base. Overall, 1023 surveys were mailed to members of the population.

A total of 807 surveys, see appendix A, had been returned as of 25 June 1986. Sixteen of these surveys were returned due to retirement of the addressee. The remaining respondents consisted of 378 GM13's, 283 GM14's, and 128 GM15's. The typical respondent was male (n=768), between 52 and 60 years old and averaged 27.5 years of creditable service toward retirement. Over 48% of the respondents had spent at least 10 years in their current job.

#### Measures

**Personal characteristics.** Variables included in this category were age, educational level, time in service, and time in present job. Age was recorded with a single question item that permitted two digit entries. Education level responses was measured with an ordinal rating scale requesting the highest educational level obtained. Time in service was operationally defined as the total time accumulated toward Civil Service pension including credited military service. This measure was obtained on a single item that permitted two digit entries. Total time in present job provided a measure of the respondent's longevity in his/her current position. The 7 possible responses ranged from less than 1 year to more than 10 years.

**Health.** Three variables dealing with health related issues were developed during assembly of the survey questionnaire. The first variable solicited evaluations of

percieved self-health using two items. The items asked "How do you percieve your present health" and "Compared to other people of your age, would you say that your health in the past year has been:" Both items used a 5 point scale ranging from 1- very good to 5- very poor. Cronbach's alpha for these two items was .81. A summation of these two items provided a composite variable used to evaluate perceived self-health's effect on retirement intentions. Scores for the sample on this composite variable ranged from 2 to 10 with a mean of 3.5 and a standard deviation of 1.47.

The second health-related variable measured the existence of any known serious health problem. This variable was used to screen for any serious health condition such as cancer, heart condition, etc. that could lead to an early retirement or disability retirement. A single item measure asked "Do you have any serious health problems" and employed a yes-no response scale. Responses were 89% no and 11% yes.

The final health-related variable consisted of three items designed to measure the perceived influence of the job on health. Items stating "My present job has a negative effect on my health", "My health will improve when I retire", and "I feel that my job has a positive effect on my health" were summed to provide a composite variable. A reliability coefficient of .74 was obtained for this instrument. All three items were distributed on a 7-point disagree-agree rating scales.

**Financial considerations.** Four major experimental variables were developed to isolate differences in the population in the area of financial considerations. The first variable used two items to evaluate concerns about the effects of inflation on retirement financial security. The first item requested the respondent to indicate his/her feelings about the statement, "Inflation is the biggest threat to my financial security after I retire." This item used a 7-point disagree-agree rating scale. The second item asked "How concerned are you about inflation" and employed a 5-point rating scale ranging from 1- very concerned to 5- not concerned at all. After reverse scoring item two, the two items were summed to form a composite measure of felt concern about inflation. A total score of 2 indicates a person with little concern about inflation versus a total score of 12 which would indicate a high degree of concern about inflationary pressures. Sample scores ranged from 2 to 12 with a mean of 9.7 and a standard deviation of 2.2.

The second financial variable, perceived adequacy of Civil Service pension benefits, is composed of two discrete single item measures. The first measure, pre-retirement compensation adequacy, requested a comparative evaluation of total compensation (salary, retirement benefits, etc.) in the federal government relative to private industry for someone in the respondent's career field and experience level. This item uses a 5-point scale ranging from 1- Government provides substantially more compensation to 5- Government provides

substantially less compensation. The second item, post retirement Civil Service pension adequacy, asked "To what extent do you feel that your Civil Service pension will be adequate to meet your financial needs after you retire?" The rating scale ranged from 1- very good to 5- very poor. The two measures attempted to discriminate between population members that retire due to compensation dissatisfaction and members that continue to work until pension compensation meets their expectations. This distinction is necessary since increased pension benefits are accrued with continued service beyond initial retirement eligibility. Each measure will be analyzed separately.

The third financial variable documents other sources of retirement income. Other sources include other pensions, spousal retirement, pension eligibility, and income from investments, etc. Three single item measures were used to quantify this variable. The first item stated "How much of your retirement income will come from Civil Service retirement income?" The rating scale ranged from 1- 100% to 6- less than 20% with 20% incremental decreases between each pair of response alternatives. The second item asked if the spouse would be eligible for any type of retirement income. Responses were 1- No, 2- Yes, and 3- Not applicable. The final item determined if any other pension besides Civil Service (eg., Social Security, military pension, corporate pension, etc.) would be received. Response values were 1- Yes, 2- No, and 3- Unsure.



The final category of financial variables was concerned with current financial obligations of the individual. Two distinct items were evaluated. The first item measured how many dependents were currently being supported. Response values ranged from 1- 1 to 5- 5 or more. The second item stated "Approximately how much of your primary residence do you currently own?" Response codes ranged from no ownership interest to more than 75% ownership.

**Non-work considerations.** This cluster of variables focused on factors not directly related to the work environment which could moderate or influence the individual's decision making process. The first variable, spousal influence, consists of two items. The first item asks respondents to choose a response on a 5-point scale ranging from 1- my spouse wants me to retire as soon as possible to 5- my spouse wants me to continue working as long as possible. The second item stated, "I have discussed retirement with my spouse" and had the responses, 1- many times, 2- occasionally, and 3- not at all. Both items have an outlet response for non-married population members. These items are summed to form a composite spousal influence variable.

The final variables under non-work considerations addressed competing activities. Competing activities include a measure of involvement in current activities (eg., leisure, organizational, etc.), other work opportunities, and post retirement planning. The first variable consisted of three

items asking how many affiliated organizations outside of work the respondent had maintained, how much time was being spent on leisure activities, and the felt interference of work with other preferred activities. The first two items measured absolute frequencies, and the last item used a 7-point disagree-agree rating scale. A composite variable was formed by summing responses to the three items. The second variable, other work opportunities, is a single item measuring perceived job opportunities in the private sector for people with the same professional qualifications as the respondent. The 5-point rating scale ranged from 1- very good opportunities to 5- very poor opportunities. The mean for this sample was 1.8 with a standard deviation of 0.94. Schmidt (1985) used the same item in a cross-sectional survey of Civil Service engineers and architects and generated a mean of 1.0 and a standard deviation of 0.85. Another measure, retirement planning, consisted of two items. The first item asked "Do you have any retirement plans?" Response codes were 1- Yes, 2- No, and 3- Undecided. A second item asked "Have you ever thought about what you will do after retirement?" Responses ranged from 1- never think about it to 3- often think about it. A summated variable was formed from these two items.

**Work/job attitudes.** This cluster of variables consisted of career commitment, organizational commitment, job satisfaction, and perceptions of organizational policies toward older workers. Career commitment reflects the degree

to which an employee is dedicated to his/her professional career. The 6 items used to measure career commitment were based upon the conceptual work of Jauch, Gluek, and Olson (1978) dealing with professional commitment. A sample item stated "I strive very hard to increase my knowledge of my profession." All items used a 7-point disagree-agree rating scale. The Cronbach's alpha for this measure was calculated to be .83 which compares favorably to the Spearman-Brown reliability coefficient of .72 found by Jauch et al. (1978).

Organizational commitment was measured using items from the Organizational Commitment Questionnaire (OCQ, Mowday, Porter, and Steers, 1979). The items in this measure concentrate on employee attitudes about continued association with and attraction to the organization. Only 6 of the 15 original items from the OCQ were used to measure organizational commitment. Mowday et al. (1979) reported a reliability coefficient of .84 for the OCQ. Validity data on the OCQ may be found in Mowday et al. (1979). Cronbach's alpha was calculated to be .83 for this sample.

Job satisfaction was measured with the Andrews and Withey (1976) job satisfaction questionnaire. These items used a 7-point scale ranging from extremely satisfied to extremely dissatisfied versus the original Andrews and Withey scale ranging from terrible to delighted. The items concentrate on the employee's feelings about the job and job environment. Prior AFIT researchers have successfully employed this instrument (Steel, Mento, Dilla, Ovalle, and

Lloyd, 1985). One item from the Job Diagnostic Survey by Hackman and Oldham (1980) was added to the Andrews and Withey instrument. This item, which deals with pay and fringe benefits, adds an extrinsic rewards dimension to the job satisfaction measure which may be appropriate for the present research context given the competition between retirement rewards and present job rewards. Cronbach's alpha was calculated to be .75 for this sample.

Organizational policy perceptions were measured with an experimental 4-item instrument. A sample item states "I feel workers over 55 are highly valued by the organization." All items used 7-point disagree-agree rating scales. This variable was designed to measure how individuals feel about organizational policies such as training, promotion, and use of workers age 55 and over. The reliability coefficient for this measure was calculated to be .78.

**Retirement intentions.** Three single item measures of retirement intention were recorded. The first item asked the respondent to indicate what year of retirement eligibility that he/she would retire (eg. year 1 of eligibility, year 2 or 3 of eligibility, etc.). This provided the criterion variable with incremental and mutually exclusive response categories.

**Other retirement measures.** Other measures of retirement plans were taken to estimate retirement losses over the next five years. The first item asked respondents to indicate the calendar year in which they intend to retire. This response

evaluated retirement plans under the current retirement system. The last item on retirement plans assessed the impact of an early retirement option.

#### Procedure

A total of 1023 surveys were mailed to continental US Air Bases between 19 May and 21 May 1986. Every survey had a self-addressed, postage paid return envelope and a computerized answer sheet attached. The answer sheets contained a unique 8 digit coded identification number which corresponded to a respective research population member. A total of 806 surveys had been returned as of 25 June 1986. This represents a response rate of 78% which compares favorably to the 75% response rates achieved by prior AFIT research on civilians (Smiley, 1982; Schmidt, 1985). Instructions at the beginning of the survey explained the use of opscan coding response forms. The response forms were then entered into a computer data file by means of an optical scanning machine.

It should be noted that career commitment, organizational policy perceptions, organizational commitment, perceived influences of work on health, one competing activity question, and one financial information question used a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Specific question numbers are 1-16, 30-34, and 43. The published survey contained a mistake in this scale with moderately disagree and slightly disagree printed as moderately agree and slightly agree. A

letter (Appendix B) was mailed to the entire survey population on 22-23 June 1986. Survey responses were segregated into two groups upon receipt as a remedial measure. Group 1 responses contained no written acknowledgement of the error in the response package. Group 2 responses acknowledged the error and indicated that their answers were in accordance with the revision. Of 791 responses, there were 612 Group 1 responses and 179 Group 2 responses. T-test comparisons were performed to determine if the two groups had significantly different responses to the affected variables. Results depicted in Table 3.1 identified a significant difference between these groups on only one variable, an item in the OCQ. Since only one test of the 20 tests yielded a significant difference, the evidence of the tests indicates little appreciable difference between the two groups. In fact, sheer chance alone with an alpha of .05 should yield one significant test if 20 tests are performed.

Table 3.1

## T-test Comparison of Rating Scale Error

Variable	Group 1			Group 2			T value	2-Tail prob
	n	mean	std. dev.	n	mean	std. dev.		
career1	612	6.10	1.31	179	6.03	1.25	.65	.517
career2	612	6.02	1.18	179	6.08	.95	-.73	.464
career3	612	5.92	1.40	179	5.99	1.27	-.68	.495
career4	612	6.28	.92	178	6.24	.92	.53	.596
career5	612	5.79	1.25	179	5.70	1.18	.88	.380
career6	612	6.23	1.20	179	6.27	1.03	-.53	.595
policy1	612	4.30	2.00	179	4.30	1.84	-.00	.998
policy2	611	4.67	2.09	178	4.79	1.95	-.74	.461
policy3	612	3.81	2.07	178	3.76	2.09	.25	.801
policy4	612	4.47	2.01	178	4.44	1.94	.14	.888
orgcom1	612	5.46	1.79	179	5.73	1.44	-2.06	.040
orgcom2	612	2.48	2.07	178	2.26	1.91	1.28	.203
orgcom3	612	6.05	1.33	179	6.12	1.17	-.70	.483
orgcom4	612	4.50	2.00	179	4.63	1.83	-.83	.410
orgcom5	612	6.00	1.57	178	6.08	1.28	-.71	.481
orgcom6	611	4.33	2.01	179	4.46	1.87	-.85	.395
actvty3	611	3.15	1.92	179	3.38	1.95	-1.37	.172
health1	611	3.37	2.11	179	3.66	2.19	-1.59	.114
health2	611	3.88	1.91	179	3.88	1.87	.01	.990
health3	612	4.92	1.98	179	5.04	1.90	-.80	.426
health4	611	3.78	1.86	179	3.75	1.80	.15	.881
inflat1	611	5.32	1.82	179	5.46	1.70	-.91	.363

#### IV. Results

##### Introduction

This chapter consists of three sections. The first section, regression analysis, reviews the research model and discusses how the regression analysis was designed to evaluate the structure of the model. Results of the regression analysis are included in the first section. The second section, t-test comparison, provides supplemental analysis between projected early retirees, projected late retirees, and those with undecided retirement intentions. The third section discusses retirement intentions over the next five years and the impact of an early retirement option.

##### Regression Analysis

Background. The research model (Fig. 2.2) is composed of variables thought to determine the intent to retire. The variables are clustered into five categories labeled personal characteristics, health, financial considerations, nonwork considerations, and work/job attitudes. A recapitulation of each cluster of variables is contained below.

Personal characteristics is composed of four predictor variables. The first variable, age, is simply the present age of the respondent. The second variable, education, defines the highest educational level achieved by the respondent. The third variable, time in service, represents the number of years the respondent currently has accrued toward civil service retirement. Finally, time in present



job, represents the length of time the respondent has spent in his/her present job.

The health cluster consists of perceived self health, known serious health condition, and the perceived influence of job on health. Perceived self health measured how healthy the respondent presently feels. Known serious health condition represents medically defined health conditions that could substantially impair the individual. Perceived influence of job on health was a composite measure that defined how individuals felt working affected their health.

Financial considerations included fear of inflation, Civil Service pension adequacy, other sources of retirement income, and financial commitments. Fear of inflation defined how strongly respondents felt about inflation reducing their financial well being. Civil Service pension adequacy included a measure of the expected percent of retirement income that would come from civil service and a measure of the perceived parity of current pay and benefits. Other sources of retirement income referenced other pensions besides expected civil service pension (eg., military retirement, spousal pension, social security, private sector pension). Financial commitments included the number of dependents currently supported and the percent of primary residence still mortgaged.

Nonwork considerations were composed of three variables. The variable dealing with spousal views on retirement defines the influence of the spouse on the retirement decision-making

process. Other work opportunities referred to the respondent's feelings about job opportunities in the private sector. The last variable, competing activities, was comprised of a measure of current nonwork activities (eg., recreational, church, fraternal, etc.) and planned post retirement activities.

The final cluster of predictor variables included career commitment, organizational commitment, job satisfaction, and perceptions of organizational policy. Career commitment reflects the felt importance of the chosen profession. Organizational commitment describes the felt strength of continued association with the organization. Job satisfaction describes the employee's satisfaction with his/her current job. Perceptions of organizational policy focused on the perceived treatment of the older worker by organizational policies and practices.

This research uses the intent to retire, stated in terms of year of retirement eligibility, as the criterion variable. Response choices ranged from 1- intend to retire in year 1 of retirement eligibility to 4- intend to retire after year 5 of retirement eligibility. The 10 respondents choosing option 5, intend to retire due to disability, and the 132 respondents choosing option 6, undecided, were recoded as missing values for the stepwise regression analysis reported in this paper. It should be noted that inclusion of the undecided responses made little difference in the outcome of the regression model and resulted in the same significant

predictor variables and a nearly identical  $R^2$  value. The components of the model were used to predict the intent to retire.

Stepwise hierarchical regression analysis was used to test the model in Figure 2.2. Predictor variables were clustered together in the appropriate model categories. The stepwise regression search initially evaluated the cluster of personal characteristic variable. The regression analysis then proceeded with health variables, financial consideration variables, nonwork considerations, and work/job attitudinal variables in that order.

Discussion of results. The amount of variance explained in the intent to retire ratings by the entire set of model predictor variables was 40% ( $R^2 = .40$ ,  $p < .001$ ). Table 4.1 depicts the significant variables identified by the regression analysis. The first cluster of independent variables, personal characteristics, yielded two variables that were significant predictors of retirement intentions. Age and tenure, both significant beyond the .001 level, generated a combined  $R^2$  of .26 with age alone accounting for 24% of the predictable criterion variance. The amount of variance explained by age is surprising. These results indicate that younger respondents intend to retire earlier. It should be noted that all groups were career employees with tenure means ranging from 26.8 years (early retirees) to 28.9 years (late retirees). Education, grade level, and time in

Table 4.1  
Significant Predictors of Intent to Retire

Predictors	Beta	R <sup>2</sup>	R <sup>2</sup>
Age	.46	.24	.24
Tenure	.11	.02	.26
Influence of job on health	.16	.04	.30
Number of dependents	.16	.03	.33
Proportion of retirement income from civil service	-.12	.02	.35
perceived parity of current pay	-.08	.01	.36
Post retirement plans	-.16	.03	.39
Spousal Influence	.12	.01	.40

\* note: all variables significant beyond the .001 level

the present job were not significant predictors of the criterion variable.

The second cluster of independent variables on dealing with health related concerns produced an additional significant predictor of intent to retire. This variable, the perceived influence of the job on personal health, increased the  $R^2$  by 0.04 ( $p < .001$ ). People that felt their job had a negative impact on their health expressed earlier retirement intentions. Perceived self-health and known health problems were not significant predictors in the present analysis.

Financial considerations were the third cluster of independent variables evaluated in the stepwise regression procedure. Within this cluster three variables entered the regression model significant beyond the .001 level. The first significant variable, the number of dependents currently being supported, increased  $R^2$  by .03. The other two variables both dealt with the perceived adequacy of civil service pension and benefits. The first variable, percent of retirement income that will come from the civil service pension, increased  $R^2$  by .02. People with less reliance on their Civil Service pension indicate earlier retirement intentions. The second variable, perceived parity of current pay and benefits, increased  $R^2$  by an additional .01. People perceiving the government as providing less compensation than private industry indicated earlier retirement intentions. Fear of inflation and other sources of retirement income did

not significantly add to the prediction of retirement intentions.

The fourth step of the regression analysis analyzed nonwork considerations. These variables included spousal influence, other work opportunities, and competing activities. The competing activities variables were further subdivided into the current competing activities and post retirement planned activities. Two variables entered the regression analysis from this group both significant beyond the .001 level. Post retirement planned activities increased the  $R^2$  value by .03. People with higher levels of post retirement planning indicated earlier retirement intentions. The second variable from this cluster to enter the regression analysis was spousal influence which increased  $R^2$  by .01. This variable was positively correlated with retirement intentions suggesting that spousal preference for continuance of work results in delayed retirement intentions.

The final step of the regression analysis evaluated work/job attitudinal variables. These variables included career commitment, job satisfaction, organizational commitment, and perceptions of organizational policies. None of these variables significantly entered into the regression equation. This outcome indicates that none of these variables explained additional unique criterion variance above and beyond that explained by the previously entered variables.

In summary, the stepwise hierarchical regression model yielded a total  $R^2$  of .40. All of the variables entered were significant beyond the .001 level of significance. This indicates that approximately 40% of the variance in the sample's retirement intentions was explained by the model. Significant predictor variables were age, tenure, perceived influence of job on health, number of dependents, percent of retirement income from civil service pension, perceived adequacy of current compensation, post retirement plans, and spousal influence. Each cluster of the variables in the research model, except work/job attitudes, received statistical support for consideration as potential precursors of retirement plans.

#### T-test Comparisons

Supplemental analyses, t-tests, were performed between groups of projected early retirees, projected late retirees, and those with undecided intentions. The first comparison group, early retirees, was composed of the 471 respondents that expressed an intention to retire in the first three years of retirement eligibility. The second group, late retirees, was composed of the 174 respondents that expressed an intention to retire after the third year of retirement eligibility. A final comparison group, undecided retirees, was composed of the 132 respondents that were undecided as to when they would retire.

T-tests between group means were conducted on all independent variables measured in the study. These

comparisons included early retirees vs late retirees, early retirees vs undecided retirees, and late retirees vs undecided retirees.

Results. The t-test between projected early retirees and projected late retirees (Table 4.2) identified 12 independent significant differences between the means of the two groups. Group means for age, perceived influences of job on health, current competing activities, post retirement plans, job opportunities, and spousal influences were significantly different beyond the .001 level. Perceived self health, tenure, percent of retirement income from civil service pension, perceived adequacy of civil service pension, and organizational commitment were significantly different at  $p < .01$ . Job satisfaction was significantly different between groups at a p-value of .05. Age, perceived influences of job on health, post retirement plans, spousal influences, tenure, and proportion of retirement income from civil service also entered as significant predictor variables in the regression analysis. Noteworthy variables that exhibited significant differences between group means but failed to enter significantly into the regression analysis included job opportunities, organizational commitment, and job satisfaction. Early retirees felt more optimistic about job opportunities in private industry while simultaneously indicating a lower level of organizational commitment and job satisfaction. Mobley (1977) proposed a model of employee turnover which included these variables. One possible



Table 4.2

## T-test Comparison between Early and Late Retirees

Variable	Early Retirees			Late Retirees			t
	n	M	SD	n	M	SD	
Age	464	55.3	2.7	174	58.5	4.3	-9.15***
Education	471	5.0	1.0	172	4.9	1.0	.08
Tenure	471	26.8	6.2	174	28.9	8.0	-3.18**
Time in job	470	5.5	2.0	172	5.5	1.9	.02
Grade level	471	1.7	.7	174	1.7	.8	-.17
Self health	469	3.6	1.5	173	3.3	1.2	2.82**
Known health condition	470	1.9	.4	173	1.9	.3	-1.71
Influence of job on health	470	11.5	4.8	174	14.0	4.4	-6.32***
Fear of inflation	471	4.3	2.2	174	4.4	2.4	-.44
Parity of current pay	469	3.9	.9	172	3.8	.9	1.18
Adequacy of pension	456	3.9	.8	170	3.1	.8	3.09**
Proportion of retirement income from civil service	470	2.8	1.2	174	2.5	1.0	3.03**
Spousal pension	469	1.5	.6	174	1.4	.6	1.46
Other pension	425	1.8	1.0	166	1.9	1.0	-1.06
Equity in home	469	4.2	1.1	174	4.2	1.1	-.29
Number of dependent	471	2.5	1.0	172	2.7	1.0	-1.76
Spousal influence	466	4.4	1.8	173	5.1	1.4	-4.89***
Spouse retirement	469	2.8	1.4	173	1.8	.6	-1.14
Current activities	470	9.4	3.0	174	8.6	2.6	3.21***
Post retirement plans	386	5.3	1.1	133	4.7	1.4	5.07***
Job opportunities	471	1.7	.9	174	2.0	1.0	-3.38***
Career commitment	470	36.1	5.5	174	36.7	5.6	-1.18
Organizational commitment	469	31.2	8.0	174	33.0	7.3	-2.73**
Job satisfaction	471	18.6	6.8	172	17.1	6.6	2.49*
Organizational policy	470	16.8	3.1	172	16.4	3.7	1.24

\* p < .05  
 \*\* p < .01  
 \*\*\* p < .001

explanation for this result is that early retirees are withdrawing from Civil Service with intentions of reentering the private sector workforce at some future date. The present data failed to reflect whether the felt optimism regarding the job market subsequently manifested itself in job search behavior. The differences do indicate that job satisfaction and organizational commitment were moderately linked to retirement intentions. However, they were apparently redundant with other variables in predicting retirement intentions. The predictor variables that most likely masked job satisfaction and organizational commitment relations with retirement intentions were age and perceived parity of current pay. Younger workers (those in their early 50's) exhibited less job satisfaction and weaker organizational commitment. Respondents indicating negative impressions of current pay parity also exhibited less job satisfaction.

The comparison between early retirees and undecided retirees (Table 4.3) identified age, perceived self health, preceived influence of job on health, fear of inflation, spousal influence, spouse retirement, current activities, post retirement plans, perceived job opportunitites, organizational commitment, and job satisfaction as significantly different between groups. Age, perceived influence of job on health, spousal influence, and post retirement plans were significant predictor variables in the regression equation. It would seem that undecided retirees

Table 4.3

T-test Comparison between Early and Undecided Retirees

Variable	Early Retirees			Undecided Retirees			t
	n	M	SD	n	M	SD	
Age	464	55.3	2.7	131	57.2	4.5	-4.79***
Education	471	5.0	1.0	132	5.0	1.1	-.35
Tenure	471	26.8	6.2	132	28.3	8.0	-1.93
Time in job	470	5.5	2.0	130	5.6	1.9	-.71
Grade level	471	1.7	.7	131	1.7	.9	-.06
Self health	469	3.6	1.5	132	3.2	1.3	2.95**
Known health condition	470	1.9	.4	132	1.9	.3	-.73
Influence of job on health	470	11.5	4.8	131	13.8	4.5	-5.13***
Fear of inflation	471	4.3	2.2	132	4.8	2.3	-2.10*
Parity of current pay	469	3.9	.9	131	3.9	1.0	.49
Adequacy of pension	456	3.9	.8	122	3.2	.9	.78
Proportion of retirement income from civil service	470	2.8	1.2	130	2.6	1.2	1.69
Spousal pension	469	1.5	.6	132	1.6	.7	-.53
Other pension	425	1.8	1.0	115	1.7	1.0	1.11
Equity in home	469	4.2	1.1	132	4.2	1.1	-.32
Number of dependent	471	2.5	1.0	132	2.8	1.1	-1.91
Spousal influence	466	4.4	1.8	130	5.7	1.7	-7.42***
Spouse retirement	469	2.8	1.4	132	2.5	1.4	-3.19**
Current activities	470	9.4	3.0	132	8.6	2.6	2.92**
Post retirement plans	386	5.3	1.1	88	4.4	1.4	5.68***
Job opportunities	471	1.7	.9	131	1.9	1.0	-2.11*
Career commitment	470	36.1	5.5	132	36.7	4.5	-1.31
Organizational commitment	469	31.2	8.0	132	33.5	7.7	-3.01**
Job satisfaction	471	18.6	6.8	132	17.1	6.3	2.35*
Organizational policy	470	16.8	3.1	132	16.5	3.2	1.06

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

exhibit few characteristics of early retirees. Since undecided retirees are currently in the decision making process on retirement, further investigation in this subgroup would be useful in contrasting their retirement decision modeling process with individuals possessing more clear-cut retirement plans. The comparison between late retirees and undecided retirees (Table 4.4) only highlights two significantly different group means, age and spousal influence ( $p < 0.05$ ). Both of these variables entered significantly into the hierarchical regression analysis. This comparison provides substantial evidence that these two groups are very similar with regards to their reactions to the study's variables.

Table 4.4

T-test Comparison between Late and Undecided Retirees

Variable	Late Retirees			Undecided Retirees			t
	n	M	SD	n	M	SD	
Age	174	58.5	4.3	131	57.2	4.5	2.41*
Education	172	4.9	1.0	132	5.0	1.1	-.37
Tenure	174	28.9	8.0	132	28.3	8.0	.72
Time in job	172	5.5	1.9	130	5.6	1.9	-.63
Grade level	174	1.7	.8	131	1.7	.9	.07
Self health	173	3.3	1.2	132	3.2	1.3	.48
Known health condition	173	1.9	.3	132	1.9	.3	.68
Influence of job on health	174	14.0	4.4	131	13.8	4.5	.45
Fear of inflation	174	4.4	2.4	132	4.8	2.3	-1.41
Parity of current pay	172	3.8	.9	131	3.9	1.0	-.45
Adequacy of pension	170	3.1	.8	122	3.2	.9	-1.51
Proportion of retirement income from civil service	174	2.5	1.0	130	2.6	1.2	-.66
Spousal pension	174	1.4	.6	132	1.6	.7	-1.51
Other pension	166	1.9	1.0	115	1.7	1.0	1.76
Equity in home	174	4.2	1.1	132	4.2	1.1	-.05
Number of dependent	172	2.7	1.0	132	2.8	1.1	-.37
Spousal influence	173	5.1	1.4	130	5.7	1.7	-3.19**
Spouse retirement	173	1.8	.6	132	2.5	1.4	-1.85
Current activities	174	8.6	2.6	132	8.6	2.6	-.06
Post retirement plans	133	4.7	1.4	88	4.4	1.4	1.16
Job opportunities	174	2.0	1.0	131	1.9	1.0	.77
Career commitment	174	36.7	5.6	132	36.7	4.5	-.04
Organizational commitment	174	33.0	7.3	132	33.5	7.7	-.56
Job satisfaction	172	17.1	6.6	132	17.1	6.3	-.00
Organizational policy	172	16.4	3.7	132	16.5	3.2	-.15

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

#### Other Retirement Measures

Two other measures of retirement plans were investigated to provide projections of near term attrition due to retirement. The first measure requested respondents to indicate the calendar year in which they intended to retire. There were 485 respondents (61.4%) that indicated the intent to retire between 1986 and 1990, 178 responses (22.5%) indicating retirement after 1990, and 127 responses undecided on what year they intend to retire. If intent to retire is in fact a valid predictor of subsequent behavior and half of the undecideds take retirement between 1986 and 1990, then 70% of this group should no longer be active employees in the Air Force by 1990. It is noteworthy that the projected average age at retirement is 58.0 years with 92% indicating retirement prior to age 65. This may represent a significant and premature loss of engineering and technical personnel in these grades. Table 4.5 depicts the frequency distribution of responses to this measure.

The second measure evaluated the impact of an early retirement option. Of the 789 responses over 225 were already eligible for retirement, 115 would accept without hesitation, and 252 would seriously consider the option. Approximately 65% of the population, after exclusion of the already eligibles, would accept or seriously consider an early retirement option. When compared with the previous results based on 1986 and 1987 projections, an early

Table 4.5  
Retirement Intent as a Function of Year

Calender Year	Frequency of Response	Percent of Response	Cumulative Percent
1986	92	11.6	11.6
1987	131	16.6	28.2
1988	120	15.2	43.3
1989	73	9.2	52.7
1990	69	8.7	61.4
after 1990	178	22.5	83.9
Undecided	127	16.1	100.0

retirement option would appear to significantly increase the near term attrition due to retirement. Table 4.6 depicts the frequency responses to this item.



Table 4.6  
Responses to Early Retirement Option

Response Category	Frequency of Response	Percent of Response	Cumulative Percent
Accept	115	14.6	14.6
Seriously Consider	252	31.9	46.5
Undecided	67	8.5	55.0
Not Seriously Consider	86	10.9	65.9
Reject	43	5.4	71.4
Already Eligible	225	28.4	100.0

## V. Discussion and Summary

The results in the previous chapter show that the research model identifies only some of the factors which influence the intent to retire. Support was found for a relationship between personal characteristics and retirement intentions. Also supported were relationships between retirement intentions and health factors, financial considerations, and nonwork considerations. The results did not support a relationship between work attitudes and retirement intentions. Specific findings and conclusions for each research objective are discussed in detail below. The thesis concludes with a summary of results, a discussion of the implications of these findings for the Air Force, and recommendations for future research.

### Research Objective 1

Research objective 1 was to determine the significant factors that lead to retirement. Results of the regression analysis on hypothesis one through five showed that personal characteristics, health factors, financial considerations, and non-work considerations were significant in predicting the intent to retire. Work/job attitudes did not explain any unique variance in the criterion variable.

The significant components of personal characteristics included age and tenure. This agrees with the findings of Palmore et al. (1982) demonstrating that age, by itself, is a

moderate predictor of retirement. Age and tenure appear to be critical in establishing initial eligibility criteria for retirement of the employee. Fully 44% of the sample indicated the intent to retire in the first year of eligibility. Time in present job and educational level were not significantly related to retirement intent.

One component of the health factors, the perceived influence of job on health, was significantly related to retirement intent. The relationship indicates that earlier retirees feel that work has a negative impact on health. No previous research on this measure of health was found. The exploration of this relationship between work and health would be an interesting and potentially fruitful aspect for future study. Findings on the other measure of health, perceived self-health and known health conditions, confirmed findings by Palmore et al. (1982) and Schmitt and McCune (1981). These two measures of health were not significantly related to retirement intent in the present investigation.

Two components of employee's financial status entered significantly into the regression analysis. The first component, perceived adequacy of Civil Service pension and benefits, indicated that earlier retirees are less satisfied with both their current compensation and future pension adequacy. Future research may be able to determine if earlier retirees reenter the workforce to bolster their financial security. Financial commitments, specifically the number of currently supported dependents, was also positively

correlated with retirement intentions. This result is consistent with findings reported by Schmitt et al. (1979). Future research should investigate the impact of smaller families among younger workers to determine if reduced family size correlates with expected earlier retirement. Fear of inflation was not identified as a significant factor in the current data. This would seem to indicate that the present moderation of inflation rates has decreased the importance attached to this variable in the late 1970's. The last financial variable, other sources of retirement income, was unrelated to retirement intentions.

Two of the nonwork variables were significantly related to the intent to retire. Post retirement planning exhibited a negative correlation with the criterion variable. People intending to retire earlier indicated a higher level of post retirement planning activity. This finding is consistent with Atchley's theory of the retirement process (1976) which hypothesizes that anticipatory involvement in post retirement activities increases as the actual act of retiring approaches. A second nonwork variable, spousal influence, demonstrated that respondent behavior is moderated by the opinions of the spouse. Future research into spousal feelings regarding organizational involvement, work ethics, etc. may be useful in identifying areas that may enhance the spouse's opinion of delaying retirement.

The final cluster of variables, work/job attitudes, did not explain any unique variance during the regression

analysis. Perhaps these variables are indirectly linked to the intent to retire. They may influence levels of variables in the other categories. T-test comparisons between early and late retirees indicated significant differences in organizational commitment and job satisfaction. Schmitt et al. (1979) had found job satisfaction moderately linked to retirement. Measures of organizational policy may also prove useful as predictors based on the nature of unsolicited comments provided by respondents. These comments primarily dealt with the uncertainty of future legislative action on retirement eligibility. Interviews or surveys of retirees may provide insights into how work and job attitudes influence their decision to retire.

Based upon results of this research, several modifications to the model may be considered in order to account for further variance in the retirement process. The most dramatic change would be deletion of work/job attitudes as an immediate precursor of retirement. Some of the clusters of variables may be modified to account for additional variance in retirement intent. One additional influence on personal health would be to measure recurring job stress. Additionally, the model may be expanded to encompass overall life satisfaction, post retirement life expectancies, and life goals. It would seem that work, which has played a major life role, dramatically decreases in importance during the transitional period preceding retirement. A transition period would seem to occur where

people refocus their social and personal attention. A revised model may consider additional predictors of retirement.

#### Research Objective 2

Research objective 2 was to examine the projected attrition due to retirement over the next five years. The first measure of retirement plans estimated losses under the current retirement system. Over 61% of the population indicated the intent to retire between 1986 and 1990. Within the 174 Air Force Civil Engineering responses, losses are estimated at 125 personnel. The organization should anticipate considerable change in mid- and upper level management composition as these people leave Civil Service. The second measure estimated retirement losses under an early retirement option. If this option was available 115 respondents (14.6%) indicated unconditional acceptance of the offer and 252 respondents (31.9%) would seriously consider the offer. In contrast only 223 respondents (28.2%) intend to retire in 1986 and 1987 under the present system. It is noteworthy that 95% of the population intends to retire prior to age 65. This agrees with findings by Burkhauser and Quinn (1983) that retirement, in recent years, has been occurring 4 to 7 years before age 65.

## Summary

Congressional sources have stated that retirees place a financial burden on national resources and represent a significant loss to the U.S. workforce. Air Force sources indicate that retention and recruitment of qualified engineers and technical personnel is a major problem for the organization. Prior research has not focused on Air Force attrition of engineers and technical personnel due to retirement. This research explored the relationship between retirement intentions and personal characteristics, health, financial considerations, nonwork considerations, and work/job attitudes. Retirement plans under the present retirement system and under an early retirement option were also evaluated.

A research model of retirement was developed from a literature search with special emphasis on a model developed by Palmore et al. (1982). A survey questionnaire was written to collect data from GM13 to GM15 engineering and technical personnel, age 52 and older, on specific factors in the model. The data analysis was divided according to the two research objectives. The first research objective was to determine the significant factors that are related to retirement intentions. This objective was divided into six testable research hypothesis. The second research objective was to estimate losses due to retirement in this population group over the next five years.

The model of retirement tested in this research identified seven significant predictor variables of retirement intentions. Age, perceived influence of job on health, and post retirement planning accounted for 30.7% of the variance in retirement intentions. Time in service, number of dependents, perceived adequacy of Civil Service Pension, and spousal influence accounted for an additional 10% of the variance. Direct support was not found for any of the job/work attitudes evaluated.

Projected losses due to retirement over the next five years will exceed 61% in this population. An additional 16% of the respondents were undecided about their expected year of retirement. An early retirement option would significantly increase near term retirement losses. Results also confirmed previous findings that retirement typically occurs 4-7 years before age 65.

#### Implications of Findings

Age was found to be the single best predictor of early retirement. Younger members of the population show a much stronger intent to retire during the first few years of retirement eligibility. In virtually all cases (95%) retirement will occur prior to age 65. The Age Discrimination in Employment Act of 1978 eliminated the retirement age ceiling to increase workforce longevity. This act assumes that older workers can remain productively employed in the workforce. Based on this assumption and the



projected age at retirement for the research population, thousands of man-years are being lost to the organization prematurely. One possible action to reduce this loss of talent might be a phased retirement option. This option could allow personnel to withdraw gradually from the organization versus the present all or none choice.

Other factors found to be significant may explain some of the causes of early retirement. Respondents that perceived their job as having a negative impact on their health indicated earlier retirement intent. Society has become much more conscious of factors influencing health in the last decade. Perhaps the designation of non smoking work areas, stress relief seminars, or other measures designed to shape the employee's perception that the organization is interested in his or her health may alter the relationship between health and work continuation. The Air Force may wish to further evaluate this relationship since productivity gains among younger employees might also be achieved. A felt inadequacy of Civil Service pensions/benefits and spousal influence with the employee were also related to earlier retirement. Civil Service compensation falls under the jurisdiction of the Office of Management and Budget with accompanying legislative action required to revise this program. However, the Air Force may directly affect the spouse's opinion of the organization and may wish to evaluate potential programs in this area. Personnel managers in the Air Force should acknowledge the premature loss of these

highly qualified personnel and use these relationships to guide personnel policies.

### Recommendations

This study was an initial research investigation into influences on the retirement of Air Force Civil Service employees. One limitation on the generalization of this study's results was the relatively homogenous sample. The population evaluated exhibits many socio-economic characteristics that may not be representative of other population groups. These characteristics (e.g., education level, grade, financial status, etc.) may be much more important in the retirement decision process of the population as a whole. Future applied research on retirement should attempt to replicate these results using a cross-sectional sample from various grades and occupations within the Air Force Civil Service. A longitudinal study could also be initiated on this research population to further test the model and gain insight into the causal ordering of the variables implicit in the model. It should also be noted that the criterion variable was not an implicit measure of retirement itself but rather retirement intentions. The longitudinal study would also quantify the validity in using retirement intent to predict subsequent retirement.

Four other areas of future research were also identified as a result of this research. The first area for additional

research is to further investigate the perceived influence of work on health. Something as simple as encouragement of non-smoking or stress relief seminars could reduce premature retirement trends. This research may also prove beneficial to younger members of the workforce with potential gains in productivity.

A second focus of future research may investigate whether retirees are reentering the private sector workforce. Perhaps early retirees could be induced to remain in Civil Service under a phased retirement or part-time employment option. Additional study would also be useful in quantifying work ethics, training needs of the elder worker, and expectations of the senior employees.

A third area of future research would be to investigate spousal views and opinions with respect to the organization. Alienation of the spouse by the organization may contribute to premature loss of the employee. The military side of the Air Force has emphasized the importance of the Air Force family. It may be prudent to expand this philosophy to Air Force Civil Service employees.

Finally, this research constitutes an exploratory effort to describe the pre-retirement process. Future research is needed to validate results and explore other Civil Service population groups. Models of retirement behavior may not explain individual actions but can explain cause and effect relationships in the preretirement process. Known demographic trends dictate that the retirement process can

only increase in importance during the coming decades.

Personnel policies affecting retirement should be cognizant of these impending changes in workforce composition. Failure to do so may result in severe shortfalls in future manpower requirements.

## APPENDIX A: Survey Package



DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY  
AIR FORCE INSTITUTE OF TECHNOLOGY  
WRIGHT-PATTERSON AIR FORCE BASE OH 45433-6583

7 MAY 1986

REPLY TO  
ATTN OF

LS


SUBJECT

Survey on Civil Service Retirement (Survey Control Number 86-60)

TO

Air Force Civil Service Managers

1. The purpose of this research is to determine what factors, including non-economic considerations, influence the retirement process among Civil Service employees.
2. This questionnaire is being used to obtain information about you, your job, your occupation, and your retirement intentions. Your response will provide information for research concerning the factors influencing the decision to retire for mid- and upper managers within the Air Force.
3. Please be assured that all information you provide will be held in strictest confidence. Your individual responses will not be provided to management or any other agency. Results will be presented only in terms of group averages describing what the "typical" employee would say. When the results of the study are published, readers will in no way be able to identify specific individuals.
4. Please complete the survey and return it to AFIT/LSG in the enclosed envelope within ten working days. If you have any questions, contact Eldon Hix at Autovon 785-4437. Thanks for your cooperation and participation.

  
LARRY L. SMITH, Colonel, USAF  
Dean  
School of Systems and Logistics

- 4 Atch
1. Instructions
  2. Survey
  3. AFIT Form 11E
  4. Return Envelope

STRENGTH THROUGH KNOWLEDGE

SURVEY ON PRERETIREMENT ATTITUDES  
OF CIVILIAN MANAGERS

Survey Control Number 86-60

Expires 31 December 1986

**Instructions:** This questionnaire will take approximately 20 minutes to complete. If for any item you do not find a response that fits your situation exactly, use the one that is the closest to the way you feel.

You have been provided with one machine-scored answer sheet. Please use a "soft-lead" (No. 2) pencil to mark your responses on this sheet. Please erase cleanly any responses you wish to change and take care not to staple, fold, or tear the response sheet.

We ask that you Do Not fill in your name on the sheet so that your responses will remain confidential. Questionnaire items are responded to by marking the appropriate space on the answer sheet as shown in the following example.

Example:

The guidance you receive on the job from your supervisor is frequently unclear.

SCALE:

1	=	STRONGLY DISAGREE
2	=	MODERATELY DISAGREE
3	=	SLIGHTLY DISAGREE
4	=	NEITHER AGREE NOR DISAGREE
5	=	SLIGHTLY AGREE
6	=	MODERATELY AGREE
7	=	STRONGLY AGREE

(If you "moderately agree" with sample item #1 you would blacken in the corresponding number of that statement (moderately agree = 6) on the answer sheet for the item numbered "sample item 1".)

sample response:

1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### CAREER INFORMATION

Use the following rating scale for the ten statements to express your own feelings about your career.

- 1 = Means you strongly disagree with the statement
- 2 = Means you moderately agree with the statement
- 3 = Means you slightly agree with the statement
- 4 = Means you neither agree nor disagree with the statement
- 5 = Means you slightly agree with the statement
- 6 = Means you moderately agree with the statement
- 7 = Means you strongly agree with the statement

1. It is extremely important for me to make use of my technical knowledge and skills.
2. I strive very hard to increase my knowledge of my profession.
3. Building my professional reputation is one of my top career priorities.
4. I work at my best on difficult and challenging problems.
5. It is extremely important for me to contribute new ideas to my field.
6. I have the highest regard for colleagues of high technical competence.
7. I feel workers over 55 are highly valued by the organization.
8. I feel this organization gives employees over 55 few advancement opportunities.
9. I feel that age has no effect on organizational activities such as appraisals, selection for training, etc.
10. I feel that my organization fully utilizes the expertise of employees over 55.

### ORGANIZATIONAL INFORMATION

Listed below are a series of statements that represent possible feelings that individuals might have about the company or organization for which they work. Use the following rating scale to indicate your own feelings about the particular organization for which you are now working.

- 1 = Means you strongly disagree with the statement
- 2 = Means you moderately agree with the statement
- 3 = Means you slightly agree with the statement
- 4 = Means you neither agree nor disagree with the statement
- 5 = Means you slightly agree with the statement
- 6 = Means you moderately agree with the statement
- 7 = Means you strongly agree with the statement

- 11. I am proud to tell others that I am part of this organization.
- 12. I feel very little loyalty to this organization.
- 13. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.
- 14. I find that my values and the organization values are very similar.
- 15. I really care about the fate of this organization.
- 16. This organization inspires the very best in me in the way of job performance.

### JOB SATISFACTION

Below are 6 items which relate to the degree to which you are satisfied with various aspects of your job. Read each item carefully and choose the statement below which best represents your opinion.

- 1 = Extremely satisfied
- 2 = Satisfied
- 3 = Slightly satisfied
- 4 = Mixed (about equally satisfied and dissatisfied)
- 5 = Slightly dissatisfied
- 6 = Dissatisfied
- 7 = Extremely dissatisfied

- 17. How do you feel about your job?
- 18. How do you feel about the people you work with - your coworkers?



19. How do you feel about the work you do on your job - the work itself?

20. How do you feel about the resources you have available for doing your job - equipment, information, etc.?

21. What are your feelings about your work environment - the physical surroundings, the hours, and the amount of work you are asked to do?

22. The amount of pay and fringe benefits I receive.

### NON-WORK INFORMATION

Listed below are a series of questions about factors that are external to your present job. Please read each question carefully and answer with the response closest to your opinion.

23. My spouse:

1. Wants me to retire as soon as possible
2. Would like for me to retire before long
3. Has no opinion for or against my retiring
4. Would prefer that I continue working for a while
5. Wants me to continue working as long as possible
6. Not married

24. I have discussed retirement with my spouse:

1. Many times
2. Occasionally
3. Not at all
4. Not married

25. Do you have any post retirement plans?

1. Yes
2. No
3. Undecided

26. Have you ever thought about what you will do when you retire?

1. Never think about it
2. Sometimes think about it
3. Often think about it

27. Besides your work organization, what is the total number of organizations of which you are an active member (include religious, social, service, union, professional, and civic)?

1. 0
2. 1
3. 2
4. 3
5. 4
6. 5 or more

28. How many hours per week do you routinely devote to planned leisure activities (e.g., hobbies, sports, social activities, etc.)?

1. Less than 5 hours/week
2. More than 5 hours/week but less than 10 hours/week
3. More than 10 hours/week but less than 15 hours/week
4. More than 15 hours/week but less than 20 hours/week
5. More than 20 hours/week

29. What do you think about job opportunities in the private sector for people with professional qualifications like your own?

1. Very good opportunities
2. Good
3. Fair
4. Poor
5. Very poor opportunities

30. How would you rate the statement "Working interferes with other activities which I would rather devote time to."

1. Means you strongly disagree with the statement
2. Means you moderately agree with the statement
3. Means you slightly agree with the statement
4. Means you neither agree nor disagree with the statement
5. Means you slightly agree with the statement
6. Means you moderately agree with the statement
7. Means you strongly agree with the statement

### Health Information

The following statements represent opinions that deal with work and health. Read each item carefully and choose the answer from the scale below that best represents your opinion.

- 1 = Means you strongly disagree with the statement
- 2 = Means you moderately agree with the statement
- 3 = Means you slightly agree with the statement
- 4 = Means you neither agree nor disagree with the statement
- 5 = Means you slightly agree with the statement
- 6 = Means you moderately agree with the statement
- 7 = Means you strongly agree with the statement

- 31. My present job has a negative effect on my health.
- 32. My health will improve when I retire.
- 33. I feel that working is necessary for good health.
- 34. I feel that my job has a positive effect on my health.

The remaining questions on your health have individual scales. Choose the answer that best represents your opinion.

- 35. How do you perceive your present health?

- 1. Very good
- 2. Good
- 3. Fair
- 4. Poor
- 5. Very poor

- 36. Do you have any serious health problems?

- 1. Yes
- 2. No

- 37. Compared to other people of your age, would you say that your health in the past year has been:

- 1. Very good
- 2. Good
- 3. Fair
- 4. Poor
- 5. Very Poor

### FINANCIAL INFORMATION

This section of the survey contains several items dealing with financial considerations. This information will be used to determine important financial variables influencing the decision to retire. Please remember that your answer will be analyzed in terms of group averages and no individual evaluations will be investigated or published.

38. In terms of total compensation (health insurance, salary, retirement benefits, etc.) how would you rate the government versus private industry for someone in your career field and with your experience?

1. government provides substantially more compensation
2. government provides more compensation
3. government and private industry provide about the same compensation
4. government provides less compensation
5. government provides substantially less compensation

39. To what extent do you feel that your Civil Service pension will be adequate to meet your financial needs after you retire?

1. Very Good
2. Good
3. Satisfactory
4. Poor
5. Very Poor
6. Unsure

40. How much of your retirement income will come from Civil Service retirement?

1. 100%
2. More than 80% but less than 100%
3. More than 60% but less than 80%
4. More than 40% but less than 60%
5. More than 20% but less than 40%
6. less than 20%

41. Will your spouse be eligible for any type of retirement pension?

1. No
2. Yes
3. Not applicable

42. Will you delay your retirement until your spouse is eligible for retirement?

1. No
2. Yes
3. Undecided
4. Not applicable

43. How do you feel about the statement that "Inflation is the biggest threat to my financial security after I retire."

1. Means you strongly disagree with the statement
2. Means you moderately agree with the statement
3. Means you slightly agree with the statement
4. Means you neither agree nor disagree with the statement
5. Means you slightly agree with the statement
6. Means you moderately agree with the statement
7. Means you strongly agree with the statement

44. How concerned are you about inflation?

1. Very concerned
2. Concerned
3. Undecided
4. Unconcerned
5. Not concerned at all

45. How many dependents, including you and your spouse, are you currently supporting?

1. 1
2. 2
3. 3
4. 4
5. 5 or more

46. When you retire will you receive another pension besides Civil Service ( e.g., Social Security, military retirement, corporate pension, etc.)

1. Yes
2. No
3. Unsure

47. Approximately how much of your primary residence do you currently own?

1. Less than 25%
2. More than 25% but less than 50%
3. More than 50% but less than 75%
4. More than 75%
5. No ownership interest

### RETIREMENT INTENTIONS

The current Civil Service requirements for retirement benefits are:

- 55 years old with 30 years of service
- 60 years old with 20 years of service
- 62 years old with 5 years of service

Please answer the following questions based on your present intentions under the current Civil Service retirement eligibility requirements.

48. I intend to retire:

- 1. In year 1 of retirement eligibility
- 2. In years 2 or 3 of retirement eligibility
- 3. In years 4 or 5 of retirement eligibility
- 4. After year 5 of retirement eligibility
- 5. Due to disability
- 6. Undecided

49. I intend to retire in:

- 1. 1986
- 2. 1987
- 3. 1988
- 4. 1989
- 5. 1990
- 6. After 1990
- 7. Undecided

50. If I were eligible and offered an early retirement option within the next year I would:

- 1. Accept without hesitation
- 2. Seriously consider the option
- 3. No feelings for or against at this time
- 4. Not seriously consider the option
- 5. Reject without hesitation
- 6. Already eligible for retirement

### BACKGROUND INFORMATION

This section of the survey contains several items dealing with personal characteristics. This information will be used to obtain a profile of the background of the "typical employee." Please pay close attention to the instructions for the last two questions.

51. Your highest educational level obtained is:

1. Non high school graduate
2. High school graduate or GED
3. Some college work
4. Bachelor degree
5. Some graduate college work
6. Master's degree
7. Doctoral degree

52. Your sex is:

1. Female
2. Male

53. Total time in present job:

1. Less than 1 year
2. More than 1 year but less than 2 years
3. More than 2 years but less than 3 years
4. More than 3 years but less than 4 years
5. More than 4 years but less than 5 years
6. More than 5 years but less than 10 years
7. More than 10 years

54. Your current grade level is:

1. GS/GM-13
2. GS/GM-14
3. GS/GM-15
4. Senior Executive Service

Please turn to item 221 on page three of your answer sheet. The last two questions request your age and total time in service. Code the first digit of your response on the top row and the second digit on the bottom row of the respective items.

221. What is your age?

(if you were 75 you would code 7 on the top row and 5 on the bottom row)

222. Total years accumulated toward Civil Service pension  
including credited military service.  
(if you had 53 years of service you would code 5 on the  
top row and 3 on the bottom row)

Thank you very much for your time and assistance.



## APPENDIX B: Survey Correction Letter



DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY  
AIR FORCE INSTITUTE OF TECHNOLOGY  
WRIGHT-PATTERSON AIR FORCE BASE OH 45433-6583

REPLY TO LSB (MR. HIX)  
ATTN OF

20 May 1986

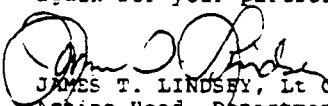
SUBJECT Survey on Civil Service Retirement (Survey Control Number 86-60)

TO Air Force Civil Service Managers

1. The survey on Civil Service Retirement recently mailed to you contains an error in the measurement scale for questions 1-16, 30-34, and 43. The scale should read as follows:

- 1 = Means you strongly disagree with the statement
- 2 = Means you moderately disagree with the statement
- 3 = Means you slightly disagree with the statement
- 4 = Means you neither agree nor disagree with the statement
- 5 = Means you slightly agree with the statement
- 6 = Means you moderately agree with the statement
- 7 = Means you strongly agree with the statement

2. Please accept our apologies for any confusion or inconvenience which this error caused. If you have any further questions contact Mr. Eldon Hix at AUTOVON 785-4437. Thank you again for your participation and cooperation.

  
JAMES T. LINDSEY, Lt Col, USAF  
Acting Head, Department of  
Organizational Sciences  
School of Systems and Logistics

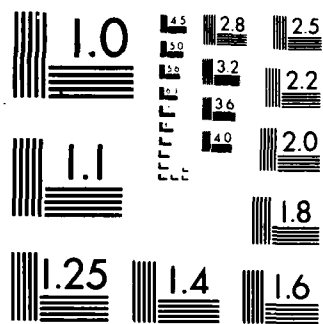
STRENGTH THROUGH KNOWLEDGE

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AD-A174 343 AN ANALYSIS OF FACTORS RELATED TO RETIREMENT INTENTIONS 2/2  
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### Vita

Eldon E. Hix was born on 7 August 1956 in Ft. Defiance, Arizona. He graduated from high school in Tumon, Guam in 1974 and attended the University of Nebraska-Lincoln from which he received a Bachelor of Science degree in Industrial and Mechanical Engineering in 1980. Work experiences prior to graduation include two years as an applications engineer for Emerson Electric in St. Louis designing electric motors. Upon graduation, he became employed as a mechanical engineer for the HQ SAC Engineering Design and Construction Branch. In October 1982, Mr. Hix transferred to the HQ SAC Engineering Directorate for Operations and Maintenance where he served as the Command Energy Systems Engineer until entering the School of Systems and Logistics, Air Force Institute of Technology, in June 1985.

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This study investigated factors thought to influence the retirement intentions of technical managers, age 52 and above, within Air Force Civil Service. Many of these personnel are eligible or will be eligible for retirement within the next five years. The purpose of this research was to identify the factors that significantly predict the intent to retire and to estimate attrition losses due to retirement over the next five years. Data collection was accomplished by a mail survey of GM13 - GM15 managers in engineering and other technical professions.

A model of retirement was developed and tested to determine the significant factors that predicted retirement intentions. Age, tenure, the influence of job on health, number of dependents, perceived parity of current pay, proportion of retirement income from civil service, post retirement plans, and spousal influence were found to be significant predictors of retirement intent. These predictors accounted for a total of 40% of the retirement intent variance. Work and job attitudes were found not to be significant predictors of the intent to retire. With respect to retirement plans, over 61% of the research population expressed the intent to retire prior to 1991 under the current retirement system. The option for early retirement resulted in an accelerated retirement trend over the near term. Significant relationships worthy of further study include the influence of work on health, spousal commitment to the organization, as well as the applicability of the retirement model to other work groups within Air Force Civil Service.

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